

OCCUPANCY MODELING OF FOREST CARNIVORES IN MISSOURI

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ABSTRACT

My research used infrared remote cameras, trackplate boxes, and scat transects to survey for carnivores at 53 sites throughout the southern forested region of Missouri. Cameras and track-plates both detected Eastern spotted skunk (*Spilogale putorius*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*) and opossum (*Didelphis virginiana*). Coyote (*Canis latrans*), bobcat (*Lynx rufus*) and gray fox (*Urocyon cinereoargenteus*) were only documented with remote cameras. Combining methods yielded a more accurate picture of the community composition.

Occupancy by eastern spotted skunk was best predicted by habitat and competitor presence. Striped skunk occupancy models indicated features related to settled areas and competitor presence were the most important predictors. The predictive models for raccoon and opossum lacked much resolution, predicting very high occupancy values throughout the region. Probability of actual occupancy (PAO) for coyotes was best predicted by measures of human disturbance and prey distribution. Bobcats were primarily influenced by coyote presence and prey availability. Gray foxes were the most heterogeneous in their regional predicted distribution, and were best predicted by measures of coyote and bobcat presence as well as by landscape elements related to humans and settled areas.